

ABSTRACT

A liquid-jet head and a liquid-jet apparatus capable of making the piezoelectric characteristics of a piezoelectric element nearly uniform, and performing ejection of a liquid at maximum output are provided.

A liquid-jet head having a passage-forming substrate 10 in which pressure generating chambers 12 communicating with nozzle orifices 21 are formed; and a piezoelectric element 300 provided on one surface of the passage-forming substrate 10 via a vibration plate, and composed of a lower electrode 60, a piezoelectric layer 70, and an upper electrode 80, the liquid-jet head comprising: a zirconium oxide layer 101 formed on the one surface of the passage-forming substrate 10; a cerium oxide layer 102 formed on the zirconium oxide layer 101; a superconductor layer 103 formed on the cerium oxide layer 102 and composed of a yttrium-barium-copper-oxygen-based material (YBCO); the lower electrode 60 formed on the superconductor layer 103 and composed of strontium ruthenate; and the piezoelectric layer 70 which is a single crystal epitaxially grown on the lower electrode 60.